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Report to the Chairman, Subcommittee on Environment, Energy, and Natural Resources, Committee on Government Operations, House of Representatives

October 1988

HAZARDOUS WASTE

The Cost and Availability of Pollution Insurance

COMPLETED
52

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GAO

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General Accounting Office
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Program Evaluation and
Methodology Division

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October 28, 1988

The Honorable Mike Synar
Chairman, Subcommittee on Environment,
Energy, and Natural Resources
Committee on Government Operations
House of Representatives

Dear Mr. Chairman:

We are submitting this report on the availability of pollution liability insurance for owners and operators of hazardous waste facilities as the second of two reports in response to your May 12, 1986, letter. In this study, we report on current insurance availability and costs in the context of a 5-year trend and discuss the position of insurance companies on underwriting pollution insurance. We also suggest that the Congress consider authorizing the Environmental Protection Agency to collect additional data related to the costs of this insurance. In addition, we recommend action by the Environmental Protection Agency to monitor the effects of recent changes in regulations concerning the forms of financial responsibility mechanisms required of owners and operators of hazardous waste facilities.

As we agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution of it until 30 days from the date of the report. At that time, we will send copies to interested congressional committees, the administrator of the Environmental Protection Agency, and others who are interested and will make copies available to other persons upon request.

Sincerely,

Eleanor Chelimsky
Director

Executive Summary

Purpose

Regulations issued under the Resource Conservation and Recovery Act of 1976, as amended, require owners and operators of facilities managing hazardous waste to demonstrate their financial ability to compensate a third party for property damage or bodily injury. The most frequently used mechanism to demonstrate financial responsibility has been pollution liability insurance. Yet this form of insurance coverage has reportedly become very difficult to obtain and, when available at all, much more costly. Owners and operators of hazardous waste facilities who can no longer meet the financial responsibility requirements cannot legally continue in operation. The Congress has therefore become concerned that the nation's ability to manage and safely dispose of its hazardous waste could be seriously jeopardized if appropriate insurance is unavailable. For this reason, the Subcommittee on Environment, Energy, and Natural Resources of the House Committee on Government Operations requested GAO to assess the availability and cost of the liability insurance used to fulfill the requirements of the act and to answer the following questions:

- How has the use of the different financial mechanisms allowable under the act changed since 1982?
- How has the number of insurance companies writing pollution liability insurance changed during the same period?
- How does the insurance industry determine risk and set rates for pollution liability insurance and how sound are its methods?

Background

Approximately 100,000 companies in the United States generate some form of hazardous waste—that is, a waste material that, by definition of the Environmental Protection Agency (EPA), is ignitable, corrosive, reactive, or toxic or has been identified and listed by EPA as hazardous. Most hazardous waste materials come from industrial processes in the chemical and petroleum industries. The intent of the 1976 act and its subsequent amendments was to reduce the generation of hazardous waste and to ensure that the present and future threat posed to human health or the environment by the continuing generation be minimized.

EPA's regulations, promulgated under the act, required that all facilities that treat, store, or dispose of hazardous waste demonstrate liability coverage for bodily injury and property damage to third parties. EPA distinguished between two types of potential pollution events: sudden and accidental occurrences, such as an explosion or a tank rupture, and "nonsudden" occurrences, such as gradual seepage of hazardous wastes from a landfill. EPA required that all such facilities demonstrate coverage

for sudden and accidental pollution of at least $1 million per occurrence with a $2 million annual aggregate coverage. Land disposal facilities (primarily landfills and surface impoundments) were required to maintain additional coverage for gradual pollution of $3 million per occurrence with a $6 million annual aggregate. This coverage could be demonstrated through a set of procedures designed to test the adequacy of the operation's assets to pay for any damages, through liability insurance, or, since 1986, the guarantee of a parent company. In September 1988, EPA accepted the use of four other financial mechanisms: letters of credit, surety bonds, trust funds, and guarantees by nonparent companies.

In 1984, the Congress provided that hazardous waste facilities in existence on November 19, 1980, could continue operating under interim status so long as they applied for an EPA permit and complied with existing regulations, including financial responsibility requirements, until EPA could complete final permits. However, the Congress also imposed a timetable on EPA for granting permits to all facilities and mandated the closing of all land disposal facilities that failed to meet liability coverage requirements by November 8, 1985.

In its interviews with representatives of the insurance industry, GAO was unable to identify industrywide insurance data on pollution liability coverage and its costs. Therefore, this information had to be collected directly from hazardous waste facility operators. GAO mailed questionnaires to all facilities that had registered with EPA as land disposal facilities and that were therefore required to demonstrate coverage for both sudden and gradual pollution. The questionnaire requested information on pollution liability coverage for 1982 through 1986, including the identity of the insurer, if any, and the extent and cost of coverage.

Results in Brief

GAO found that hazardous waste owners and operators are now relying much more heavily on their own assets to pay for damages arising from their operations and less heavily on insurance than previously. The number of insurers writing pollution insurance, the number of policies written, and the total pollution liability coverage have decreased dramatically from a 1984 peak. Simultaneously, the average premium for this insurance increased to as much as 11 times its 1982 level. Insurance contracts became more limited in their coverage and in some cases provided no real protection to operators from financial losses arising from pollution damage. Without additional data on actual losses sustained by the insurance companies, GAO cannot assess the reasonableness of the

industry's reluctance to underwrite this form of coverage or of its ratesetting practices.

Principal Findings

Changes in Financial Responsibility Mechanisms

From 1982 to 1984, approximately two thirds of hazardous waste land disposal facilities used insurance to fulfill financial responsibility requirements, but in 1986 most used the financial test option and, meeting it, were allowed to continue operations without insurance.

Changes in Insurance Availability

Respondent facilities reported sudden and accidental pollution coverage from 42 different insurers in 1984 and 31 in 1986. During the same period, the number of gradual pollution insurers dropped from 19 to 12. Seventy-six gradual pollution policies were reported for 1984 and 17 for 1986, while the total gradual coverage reported dropped from $1.4 billion to $212 million in the same period. Simultaneously, the average cost of all poilution coverage increased from $2.77 per thousand of coverage to $17.77 per thousand.

Several respondents reported the use of insurance policies that excluded coverage for damage caused by prior events. Some policies used a retrospective rating system under which final premiums are determined by losses claimed during the policy period. Several respondents reported only nominal coverage after 1984, since the deductible amount of the policy was equal to its coverage, and the insurer further limited risk by requiring a letter of credit from the individual insured. What these fronting policies do is ensure that, in the event of loss, there will be a fund from which payment will be obtained.

Approximately one third of respondent facilities reported that they had left the hazardous waste land disposal business since 1982. Inability to obtain insurance was considered the most important factor in this decision by smaller companies, while larger companies tended to cite reasons other than insurance. However, the companies still operating, both large and small, reported insurance extremely difficult to obtain.

The Insurance Industry's Ratesetting Practices

The insurance industry cites several judicial and regulatory interpretations extending the legal liability for cleaning up hazardous waste sites as the reason for charging dramatically higher premiums or withdrawing completely from writing pollution insurance. GAO believes that the industry's declining profitability during the first half of this decade also contributed to the industry's dropping this line of insurance, which it viewed as more speculative and risky.

GAO was unable to find adequate data from which to develop an actuarial basis for judging the soundness of the industry's ratesetting for pollution insurance. Such data do not currently exist for the industry as a whole, since insurers are not required to file loss information separately for pollution insurance, and individual insurers are reluctant to share the financial details of their own experience with this line.

Matters for Consideration

In a recent report, GAO suggested that the Congress consider requiring that insurers or responsible parties, as appropriate, report to EPA the amounts of indemnity payments made to cover pollution cleanups and related third-party bodily injury and property damage (Hazardous Waste: Issues Surrounding Insurance Availability, GAO/RCED-88-2, October 16, 1987). In addition, GAO suggests that the Congress consider authorizing EPA to collect the information necessary to assess the reasonableness of the costs of insurance to meet EPA's liability coverage requirements.

Recommendation

GAO recommends that EPA carefully monitor how its recent expansion of the number of allowable financial assurance mechanisms affects the number and size of operations using noninsurance alternatives in order to determine if this additional flexibility achieves its stated intent to reduce the problem created by the constrained insurance market.

Agency Comments

At the request of the committee, formal agency comments were not requested for this report. However, GAO discussed its findings informally with EPA officials and included their views in this report where appropriate.

Contents

Executive Summary		2
Chapter 1 Introduction		8
	Background	8
	Liability Coverage Requirements for Hazardous Waste Operators	9
	Objectives, Scope, and Methodology	10
Chapter 2 Changes in Availability and Cost of Insurance		12
	Limitations of Questionnaire Data	12
	The Respondent Population	12
	Financial Assurance Mechanisms Used	13
	Number of Insurers	15
	Number of Policies Written	16
	Amount of Coverage	17
	Cost of Coverage	18
	Other Changes	19
	Company Size and Insurance Availability	21
	Conclusions	22
Chapter 3 Risk Determination for Pollution Liability Insurance		23
	Ratemaking Processes	23
	Statistical or Actuarial Analysis	23
	Underwriting Analysis	23
	Judgment	24
	Data Availability	27
Chapter 4 Matters for Congressional Consideration and Recommendation		28
	Matters for Congressional Consideration	28
	Recommendation	29
Appendixes		
	Appendix I: Survey of Hazardous Waste Land Disposal and Surface Impoundment Facilities	30
	Appendix II: Reasons Companies Cease Operations	49
	Appendix III: Difficulty of Obtaining Pollution Liability Insurance	50

Table

Table 2.1: Number of Pollution Insurers and Policies Reported, Total Reported Annual Aggregate Coverage, and Median Cost 15

Figures

Figure 2.1: Annual Sales or Revenues of Respondent Companies 13
Figure 2.2: Use of Insurance and Financial Test by Hazardous Waste Land Disposal Facilities 1982-86 14
Figure 2.3: Number of Pollution Liability Insurers 1982-87 16
Figure 2.4: Pollution Liability Policies Reported 1982-87 17
Figure 2.5: Total Annual Aggregate Pollution Coverage Reported 1982-87 18
Figure 2.6: Median Cost of Pollution Liability Insurance 1982-87 19

Abbreviations

EPA	Environmental Protection Agency
GAO	General Accounting Office

Introduction

Background

Reports of potentially disastrous accidents involving hazardous waste generators and handlers have become commonplace within recent years. Sudden threats to health have been caused by accidental release of poisonous gases such as occurred in Institute, West Virginia, or Springfield, Massachusetts, or by the gradual, but perhaps equally deadly, damage from seepage of toxic chemicals into groundwater at Love Canal, New York, or Woburn, Massachusetts. These incidents appear to have their daily, if less catastrophic, counterparts.

In one part of a multipronged approach to reducing the threats to human health and the environment posed by toxic substances, the Congress enacted the Resource Conservation and Recovery Act of 1976 with the objective, among others, of "regulating the treatment, storage, transportation, and disposal of hazardous wastes." The act defined hazardous waste as

> "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may . . . cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; . . . or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."

In order to ensure compensation for any damage resulting from the treatment, storage, and disposal of such waste, the Congress directed EPA to issue regulations regarding the financial responsibility of treatment, storage, and disposal facilities as EPA might find to be necessary or desirable. To comply with the regulations, these facilities have relied heavily on liability insurance coverage. However, coverage for damage caused by hazardous waste has reportedly become very difficult to obtain and, when available at all, extremely costly. A hazardous waste handler who cannot demonstrate adequate liability coverage cannot legally continue to operate. In the absence of any insurance source, the nation's ability to manage and safely dispose of its hazardous waste under the present regulatory system could be seriously jeopardized.

This report was requested by the Subcommittee on Environment, Energy, and Natural Resources of the House Committee on Government Operations. It examines the extent to which pollution liability insurance has become less available and more costly and discusses the availability of data to assess the reasonableness of the insurance industry's rate-setting for such insurance.

Liability Coverage Requirements for Hazardous Waste Operators

When the Congress enacted the Resource Conservation and Recovery Act in 1976, it required that the Environmental Protection Agency include in its requirements for hazardous waste treatment, storage, and disposal facilities "such additional qualifications as to . . . financial responsibility as may be necessary or desirable." Under 40 C.F.R. 264.147 and 265.147, these requirements were defined as liability coverage for bodily injury and property damage to third parties resulting from sudden accidental occurrences from a facility's operations. Under regulations promulgated in 1982, this coverage could take the form of a liability insurance policy, a demonstration of assets adequate to provide EPA with assurance of financial responsibility (financial test), or a combination of the two. In 1986, EPA added a third method: a corporate guarantee by a parent company that can be combined with insurance. In September 1988, EPA once more expanded the range of financial options by accepting letters of credit, surety bonds, trust funds, and guarantees provided by firms that are not the direct parents of the owners or operators.

Under EPA regulations, owners or operators of hazardous waste treatment, storage, and disposal facilities were required to demonstrate—firm by firm—liability coverage for sudden and accidental pollution incidents (such as a tank rupture or explosion) of at least $1 million per occurrence, with an annual aggregate of $2 million. In addition, owners or operators of land disposal facilities—that is, landfills, surface impoundments, and land treatment facilities—were required to demonstrate coverage for gradual pollution incidents (for example, long-term seepage into a drinking water supply) of at least $3 million per occurrence, with an annual aggregate of $6 million. The amounts of coverage required apply to the owners or operators for all facilities, not separately to each facility. EPA phased in these requirements for land disposal facilities, establishing a January 1983 deadline for owners and operators with annual sales or revenues of $10 million or more, a January 1984 deadline for companies in the $5 million to $10 million range, and a January 1985 deadline for all others.

The 1976 act allowed facilities that were in existence on or before November 19, 1980, to continue operating under interim status as long as they remained in compliance with EPA's regulations until they received final operating permits. With the passage of the Hazardous and Solid Waste Amendments in 1984, the Congress established a timetable for granting permits to land disposal facilities. They were required to submit a permit application and to certify that they were in compliance

with both liability coverage and the groundwater monitoring requirements by November 8, 1985. Facilities that failed to do so were to cease operations and submit plans for closing.

Objectives, Scope, and Methodology

The objectives of this report were established by the request we received from the chair of the Subcommittee on Environment, Energy, and Natural Resources of the House Committee on Government Operations. The chair requested that we assess the availability and cost of liability insurance used to fulfill the financial assurance requirements of the 1976 act. The following questions were posed by the committee:

- How has the use of the different financial mechanisms allowable under the act changed since 1982?
- How has the number of insurance companies writing pollution liability insurance changed during the same period?
- How does the insurance industry determine risk and set rates for pollution liability insurance and how sound are its methods?

To answer these questions, we interviewed officials at EPA headquarters, six EPA regional offices, and state environmental officials in eight states. We also interviewed representatives of five state insurance commissions and officers of seven insurance companies that had written pollution liability insurance at some time during the 1980's.

We discussed our findings with agency program officials and have included their comments where appropriate. However, in accordance with the requester's wishes, we did not obtain written comments on our draft report.

Our preliminary work made it clear that although we might receive rich anecdotal information from these sources, the only sources that could provide specific and quantitative information on insurance cost and availability were the hazardous waste owners and operators, who had to provide evidence of liability coverage to EPA. Therefore, we developed a questionnaire soliciting information on insurance coverage and costs and the difficulty owners and operators were experiencing in obtaining pollution insurance. We mailed the questionnaire to all land disposal facilities that had at some time held interim status.

We chose to restrict our survey to land disposal facilities for reasons of economy and relevance. These facilities could provide us with information on sudden and accidental and nonsudden insurance, since they are

required to demonstrate these coverages. In addition, the committee's concern about pollution insurance was largely prompted by reports from some land disposal facilities that they could not obtain the required coverage and would be consequently forced to close down their facilities under the mandated phase-in of certification requirements.

We received responses from approximately three fourths of the facilities.[1] While a higher response rate would be preferable, we found this acceptable and reasonable in view of the complexity of the information requested and its potentially sensitive nature. In the course of developing and pretesting the questionnaire, we had determined that it was preferable to guarantee anonymity to respondents in order to alleviate their fears that the information might somehow be used against them in an enforcement action.

The responses to our questionnaire formed the basis for answering the first two questions posed by the committee. An analysis of the questionnaire results together with a more extensive discussion of the qualifications necessary in interpreting them is presented in chapter 2. Chapter 3 addresses the committee's third question. Our questionnaire is reprinted in appendix I. This review was performed in accordance with generally accepted government auditing standards.

[1]The characteristics of these respondents are more fully discussed in the following chapter.

Changes in Availability and Cost of Insurance

In this chapter, we discuss the information we obtained from our survey of land disposal facilities regarding the committee's first two questions about changes since 1982 in two areas: the use of pollution liability insurance by hazardous waste operators to satisfy the 1976 statutory requirements and changes in the number of insurers providing this insurance. We also review changes to other indicators of insurance availability, including the number of policies written, the total liability coverage, the period of coverage, the cost of insurance, and the relationship between company size and insurance availability.

Limitations of Questionnaire Data

Certain cautions must be borne in mind in interpreting the responses to our questionnaire. As we discussed in the previous chapter, we provided anonymity to respondents. Therefore, we had no means of verifying the accuracy of their responses or clarifying ambiguous responses. Secondly, we asked respondents to distinguish, if possible, between sudden and accidental coverage and nonsudden coverage and to report pollution insurance separately from other forms of commercial liability insurance.

Some respondents were unable to report premiums separately for the different types of coverage, and it is possible that a few who reported combined figures also included some nonpollution-related costs. For this reason, we developed and reported our summary results separately for sudden and accidental, nonsudden, and combined coverage to correspond to the manner in which they were reported to us. Finally, while we report wherever possible information concerning insurance policies written for 1987, data for this year are incomplete, since our data were collected in mid-1987. For completeness, we have included the 1987 data, where available, in the following presentation. Contrasts in cost and availability of insurance between earlier and more recent years are more properly made by using data from 1986, the most current year for which we have complete data.

While these factors may have somewhat diminished the accuracy of the summary data drawn from the questionnaires, we believe that the general trends uncovered in our analysis are so consistent and unambiguous as to ensure that they present a realistic portrait of the availability and cost of pollution liability insurance since 1982.

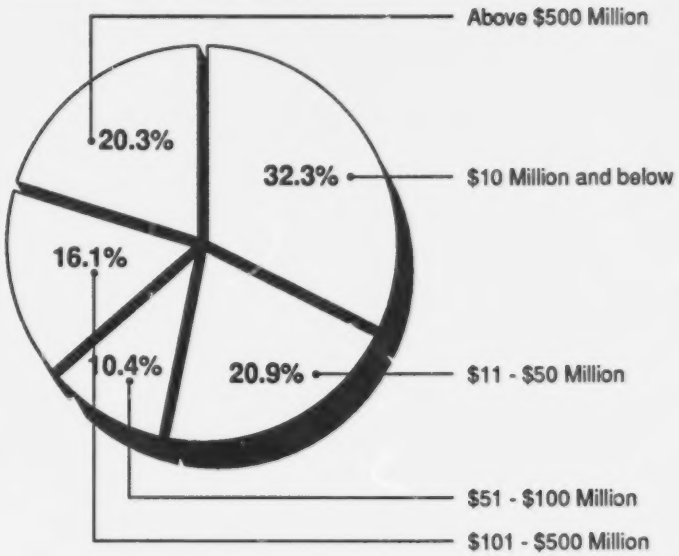
The Respondent Population

We mailed our questionnaire to the 1,667 nonfederal facilities that, according to EPA records, had registered as land disposal facilities. We received responses from 1,268 facilities (76.1 percent). Of these, 644

facilities, owned by 494 different companies, were identified as having performed hazardous waste land disposal operations sometime between 1982 and 1986. The information provided by these respondents formed the basis for the analysis of pollution insurance availability and cost reported in the following pages.

One hundred and fifty-one respondents reported operating a landfill, 476 a surface impoundment, and 60 a land treatment facility.[1] The annual sales or revenues of the companies operating these facilities ranged from $1 million to over $9 billion. Figure 2.1 presents the distribution of their annual sales or revenues.

Figure 2.1: Annual Sales or Revenues of Respondent Companies



Financial Assurance Mechanisms Used

Respondents were asked to identify the type of financial assurance mechanism they used to satisfy statutory requirements for each calendar year 1982 through 1986. Since the use of corporate guarantees was only permitted beginning in 1986, we restricted our analysis to the two other mechanisms—liability insurance and a financial test demonstrating company assets adequate to meet the required coverage. Figure 2.2

[1]Some facilities reported multiple land disposal types.

summarizes this information. From 1982 to 1984, approximately two thirds of the companies used liability insurance or a combination of insurance and financial test. By 1986, only 42 percent of the companies were using liability insurance either alone or together with a financial test to meet the 1976 act's financial responsibility requirements.

Figure 2.2: Use of Insurance and Financial Test by Hazardous Waste Land Disposal Facilities 1982-86

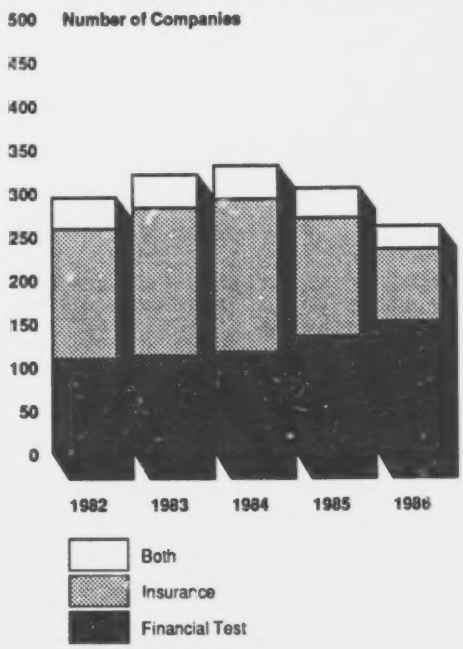


Table 2.1 summarizes a number of other indicators of change in the availability and cost of pollution liability insurance from 1982 to 1987, including the number of insurance companies underwriting this line of insurance, the number of policies written and their total coverage, and the costs for this coverage. In the following pages, we examine each aspect individually.

Table 2.1: Number of Pollution Insurers and Policies Reported, Total Reported Annual Aggregate Coverage, and Median Cost

	Number of insurers			Number of policies			Total coverage ($ Million)			Cost per $1,000		
	Sudden	Gradual	Combined	Sudden	Gradual	Combined	Sudden	Gradual	Combined	Sudden	Gradual	Combined
1982	35	7	22	120	14	34	$2,871	$232	$519	$3.33	$1.20	$5.00
1983	37	19	28	154	54	59	4,006	896	1,253	3.80	2.50	1.45
1984	42	19	33	180	76	70	5,044	1,394	978	2.60	2.70	3.00
1985	38	16	23	146	54	73	3,444	766	825	6.80	7.50	5.63
1986	31	12	17	70	17	57	1,355	212	1,008	20.50	13.17	19.63
1987[a]	8	6	8	16	8	20	679	51	149	25.00	12.50	19.80

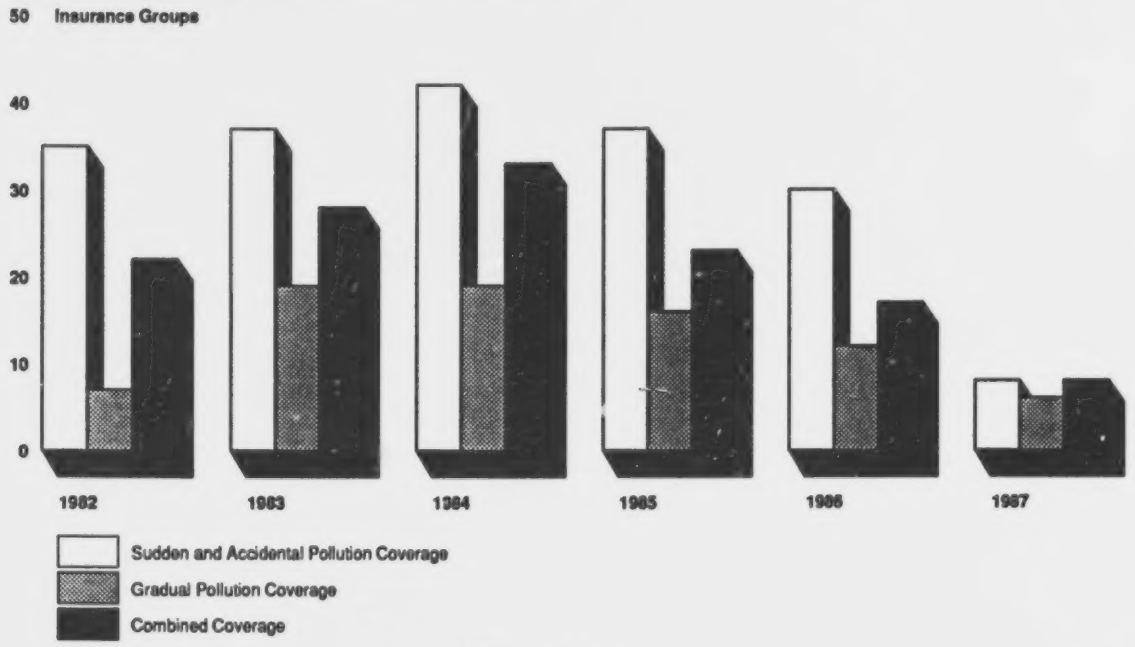
[a]Partial data.

Number of Insurers

To obtain one indicator of the changing availability of pollution liability insurance, we computed the total number of insurers for the years 1982 to 1987.[2] Figure 2.3 displays the changes by year. The number of insurers providing sudden and accidental coverage rose from 35 in 1982 to 42 in 1984 and then declined to 31 in 1986. Similarly, gradual pollution coverage was provided by 7 insurers in 1982, 19 in 1984, and 12 in 1986.

[2]We counted wholly owned subsidiaries of the same insurance group as single insurers. Data for 1987 are only partial, as respondents were only requested to provide information about insurance policies that became effective from 1982 to 1986. We analyzed data by "policy year"; that is, we assigned each policy to the calendar year that most closely coincided with its term. Therefore, 1987 reports represent policies effective after June 30, 1986.

Figure 2.3: Number of Pollution Liability Insurers 1982-87[a]



[a]1987 = partial data.

Number of Policies Written

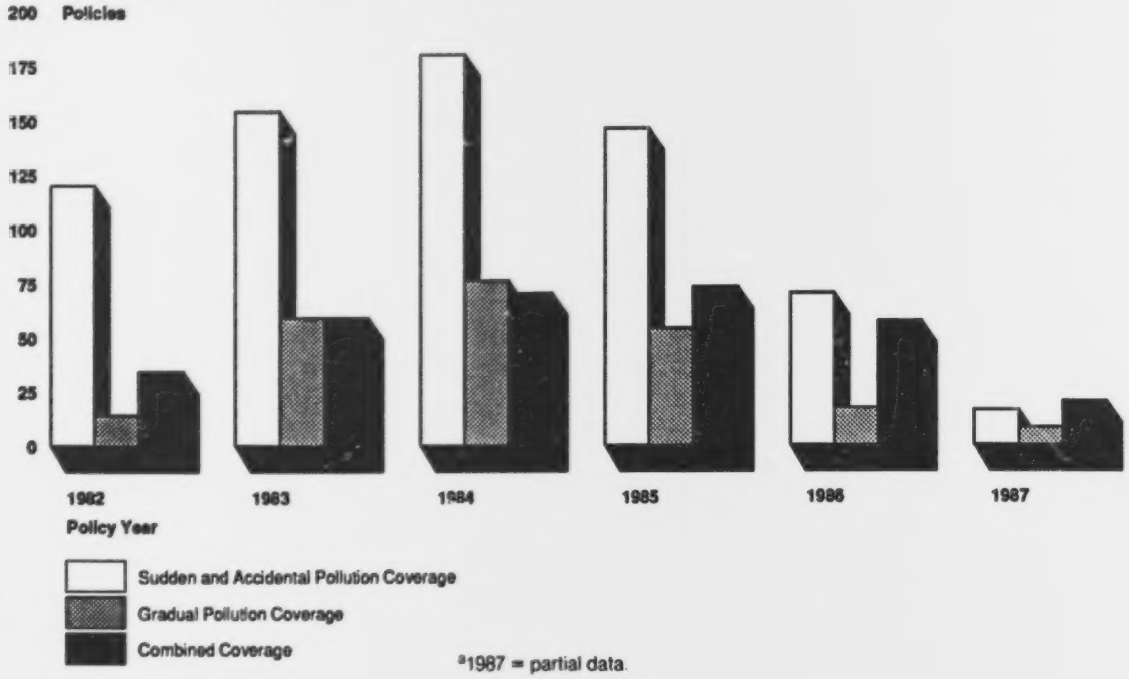
The dwindling number of insurers still writing pollution insurance is a relevant, but only indirect, indicator of the diminishing availability of such insurance. In order to determine whether the remaining insurers absorbed the hazardous waste operators whose insurers had left the market, we examined the number of policies written each year. This indicator declined even more drastically than did the number of insurers. For example, 1 insurer wrote 20 gradual insurance policies in 1985 but only 1 in 1986.[3] Of the 19 other policies, only 4 were picked up by other insurers in 1986. Eight of the 12 gradual pollution insurers identified in 1986 wrote only 1 policy, and just 1 wrote more than 2.

Figure 2.4 indicates the number of separate pollution insurance policies reported by our respondents. All three types of policy grew steadily in number from 1982 to 1984 but sharply declined by 1986. For example, only 14 gradual pollution policies were reported for the 1982 policy

[3]This one policy expired early in policy year 1986 and was not renewed.

year, but by 1984 policies increased more than fivefold. However, only 17 policies were reported for 1986.

Figure 2.4: Pollution Liability Policies Reported 1982-87[a]

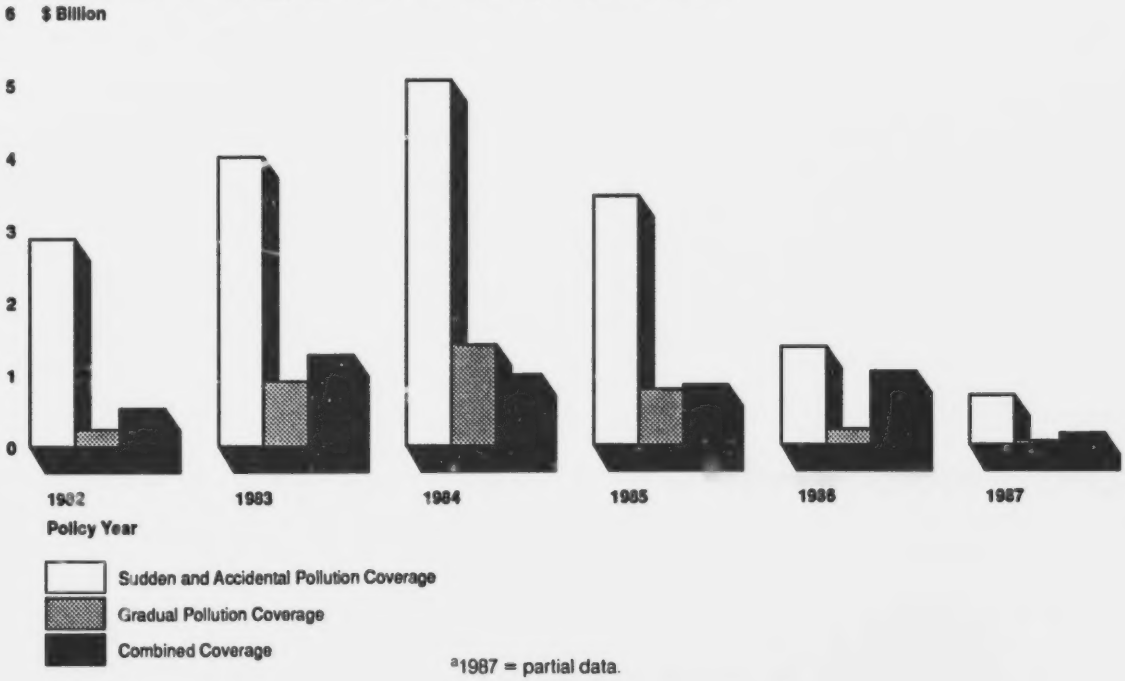


[a]1987 = partial data.

Amount of Coverage

Figure 2.5 shows the sum of all the pollution-related coverage. This statistic represents the total of the annual aggregate coverage reported by all our respondents for each year. Slightly less than $3 billion of sudden and accidental coverage was reported for policy year 1982, more than $5 billion coverage for 1984. For 1986, less than $1.4 billion was reported.

Figure 2.5: Total Annual Aggregate Pollution Coverage Reported 1982-87[a]



[a]1987 = partial data.

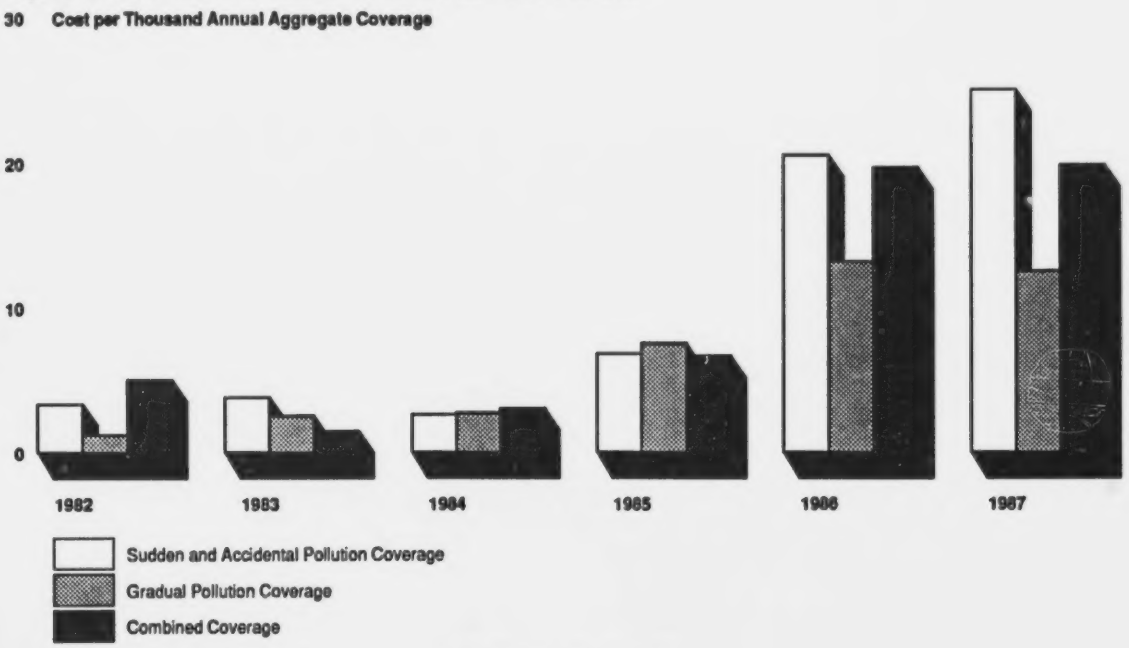
Gradual pollution coverage had a similar history. Only $232 million was reported for 1982: nearly $1.4 billion was reported for 1984. This fell back to $212 million in 1986.

Cost of Coverage

We standardized the amount insurers charged for pollution liability insurance by computing the premium paid per $1,000 of coverage reported by our respondents.[4] Figure 2.6 shows the median value of this statistic as computed for annual aggregate coverage for 1982 to 1987.

[4]Of necessity, these computations do not include policies reported only as retrospectively rated.

Figure 2.6: Median Cost of Pollution Liability Insurance 1982-87[a]



[a]1987 = partial data.

The increases in premiums and accompanying decreases in coverage resulted in dramatic cost increases during this period. The cost of sudden and accidental coverage increased sixfold from 1982 to 1986, and gradual coverage cost 11 times as much in 1986 as it did in 1982. The largest price increases occurred between policy years 1985 and 1986.

Other Changes

The decrease in the number of insurers writing pollution liability insurance after 1984 and in the number of policies written, together with the corresponding increases in the cost of insurance, do not fully reveal the increasing tightening of the market. Insurers who continued writing pollution insurance, even to a limited degree, also took other steps to limit their exposure by introducing changes in the coverage they offered.

Occurrence-Based Versus Claims-Made Forms

A major concern of pollution liability underwriters has been the retroactive nature of the pollution risks they underwrote. If an insured company was found responsible for damage caused by activity that occurred during the period in which it was insured, even though the damage was not discovered—and a claim was not filed—until many years after the insurance policy lapsed, the insurer could still be held liable to the extent of the original policy's coverage. To avoid such "occurrence-based coverage," new "claims-made" insurance forms have been developed under which the insurer is responsible only for damage that occurred either during the policy period or within a set time prior to this period and for which claims are filed within the policy term. These policies are intended to exclude, for example, the case in which an insurer would be responsible for a claim made in 1988 for damage caused by pollution that occurred while a 1985 policy was in effect. Many of our respondents reported being covered by claims-made policies.[5]

Retrospective Rating and Other Financial Requirements

Several respondents to our questionnaire did not report the premium charged for their pollution coverage but indicated that the cost was retrospectively determined; that is, the final premium was adjusted within agreed limits in accordance with the loss experience of the insured company. Since these respondents did not furnish the limits of this adjustment, we were unable to include them in our analysis of insurance cost trends. Retrospectively rated policies were reported by 14 different companies operating 21 facilities. Most of these policies were written between 1982 and 1984.

Several other respondents reported having "fronting" policies. Such policies provide a facility operator with no insurance against loss since the deductible is equal to the coverage provided by the insurer. However, the insurance company accepts liability for damages to the limits of coverage. In most of these cases, the insurer limited risk by requiring that the insured company provide a letter of credit equivalent to the coverage. What these policies do is assure EPA that in the event of loss, there will be a fund available from which payment may be obtained. Eight companies operating 27 facilities reported fronting policies. Nearly all such policies were for policy years 1984 through 1986.

[5]We did not specifically ask whether policies were claims-made or occurrence-based, but several respondents volunteered this information to our open-ended question about changes in their coverage.

Company Size and Insurance Availability

Several respondents added comments to their questionnaire responses expressing the concern that the burden of insurance unavailability was falling disproportionately on smaller companies. Therefore, we examined the companies that reported ceasing operations during 1982-86 to determine if there were size-related differences in the rate at which they left the disposal business. We found that smaller companies (those with sales or earnings of $50 million or less) ceased operating at a rate very similar to that of larger companies. However, when we examined the reasons cited for cessation, differences emerged. While larger companies rated their intention of avoiding regulation under the 1976 act as their most important reason for ceasing land disposal activities, small companies were more likely to cite the unavailability of insurance. Larger companies ranked insurance-related problems below all other considerations, while for smaller companies insurance considerations superseded most other factors. (See appendix II.) Smaller companies placed greater importance on their inability to find any pollution liability insurer, obtain adequate coverage, or afford the premium or the deductible required. As would be expected, smaller companies were also less likely to meet liability requirements by passing financial tests. There were no size-related differences in the two groups' citations of groundwater monitoring or paperwork requirements or of other business reasons.

We asked all respondents, both those that had ceased operating land disposal facilities since 1982 and those that were still operating them, about the difficulty they experienced in their last attempt to obtain pollution liability insurance. Among the respondents that had ceased operating, small companies reported having had greater difficulty in obtaining insurance than did larger companies. The larger companies that were still in operation, however, reported greater difficulty than their large counterparts that had ceased land disposal. We found only few and minor size-related differences among companies currently operating land disposal facilities. It appears that insurance was a major factor in the decision of some small companies to cease hazardous waste operations before 1986, but larger companies did not feel the effects of a tight insurance market until 1986. On a five-point scale on which a response of five indicated that adequate insurance was unobtainable, the average response of all current operators was 4.2—an indication of extreme difficulty in obtaining pollution coverage. (For complete statistics on the difficulty in obtaining insurance experienced by large and small operators, see appendix III.)

Conclusions

In response to the committee's first two questions concerning the availability and cost of pollution liability insurance, we analyzed the responses to our questionnaire from the 644 respondents that reported operating a land disposal facility between 1982 and 1986. In answer to the committee's first question, we found that before 1986, most operators relied on liability insurance to meet EPA's financial responsibility requirements, but only 42 percent did so in 1986. In answering the second question, we found that the number of insurers writing pollution insurance decreased during this period, as did the number of policies written and the total pollution liability coverage. Simultaneously, the average premium for this insurance increased to as much as 11 times its 1982 level. Insurance contracts became more limited in their coverage and, in some cases, provided the insured companies with no real protection from financial losses arising from pollution damage.

We also found some differences in the experience of land disposal facility operators that were related to the size of their companies. Most large companies that ceased operating their land disposal facilities between 1982 and 1986 reported doing so for reasons other than insurance, whereas insurance-related problems were major considerations for the smaller companies that ceased operating. By 1987, however, even larger companies were experiencing serious difficulty in obtaining pollution insurance.

Chapter 3

Risk Determination for Pollution Liability Insurance

The previous chapter documents the dwindling availability of insurance for hazardous waste facility operators and its dramatic cost increases since 1984. In this chapter, in response to the committee's third question, concerning the risk determination and rate-setting methods used by the insurance industry, we examine the industry's stated reasons for its reluctance to underwrite such insurance and the availability of appropriate data with which to assess its pricing decisions.

Ratemaking Processes

When an insurance company, or an insurer, provides insurance to a client, or an insured, it promises to pay the insured for some or all the costs associated with losses incurred under specified circumstances.[1] Since neither the insurer nor the insured can foresee either the number of losses that will be incurred or their ultimate costs, the insurer must estimate future obligations to the insured and reflect this estimate in its insurance rates. On the basis of the experience of insurance companies, they have developed methods for estimating aggregate losses for all policies and for particular lines of insurance. According to the National Association of Insurance Commissioners, statistical or actuarial analysis, underwriting analysis, and judgment are the fundamentals of ratemaking for all insurance.

Statistical or Actuarial Analysis

Using statistical or actuarial analysis, an insurer develops a loss profile of the risk for which insurance is requested from the historical data it has accumulated on similar clients. This type of analysis therefore depends on a properly accumulated, broadest possible data base adjusted to reflect actual and potential business and social changes. However, the utility of a historical data base in estimating future pollution liability costs for one or several hazardous waste companies is complicated by the fact that this form of insurance is relatively new and has undergone rapid evolution in its short history. As a result, the relevant data base available to an individual insurer or even to the entire industry is severely limited.

Underwriting Analysis

Commercial underwriting analysis establishes a relationship between a risk and an expected loss from that risk. It does this by examining at least four types of materials: underwriting guidelines, engineering

[1]This chapter's discussion of insurance ratesetting procedures and their applicability to pollution liability insurance is largely drawn from a draft report of an Environmental Liability Insurance Task Force to the National Association of Insurance Commissioners, September 1986.

surveys of similar facilities that have been insured, inspections of these and other facilities, and review of losses already experienced at the facility to be insured. Therefore, an insurance rate reflects the relationship between these data and the statistical or actuarial analysis described above.

The application of these underwriting tools to pollution liability insurance is difficult. The conditions under which hazardous waste facilities operate are extremely complex and can vary greatly. Among the factors that affect the risk are the quantity and type of waste handled by the facility, how close the facility is to water and to metropolitan areas or farms, and the facility's security procedures.

The engineering analyses assessing these factors for the underwriter can at best provide qualitative indications of the risk involved, either on a numerical ranking scale or through relatively gross characterizations of the risk as low, average, or high. Moreover, important data are not always available to the underwriter. For example, when the All-Industry Research Advisory Council surveyed pollution liability insurance underwriters and risk assessment consultants about their 1983 experiences, they found that information on previous waste disposal practices and groundwater data were the most often incomplete forms of data on applications for insurance.[2]

Completing adequate underwriting analyses for pollution liability insurance is especially difficult. Members of the insurance industry indicate that the need for special expertise and for high-quality risk assessment procedures has proven to be even more important than many insurers initially realized. Insurers that have stayed in the pollution liability market, and that are believed to be having some success in underwriting the coverage, place heavy emphasis on risk assessment and adhere to stringent underwriting criteria. According to representatives of the insurance industry, this inevitably means that a relatively high percentage of requests for pollution coverage are rejected.

Judgment

Whatever combination of statistical and actuarial analyses or underwriting analyses is used, there still remains an element of professional judgment in determining insurance rates. In the case of pollution liability insurance, where any actuarial data base is extremely limited and

[2]All-Industry Research Advisory Council, Risk Assessment for Pollution Liability (Oak Brook, Ill.: 1985).

where underwriting analyses always contain uncertainties, ratesetting—and the decision to write this line of insurance at all—must be based on professional judgment and must be sensitive to external factors more than most other lines of insurance. Two external considerations have been crucial in the insurance industry's willingness to underwrite and in its ratesetting for pollution insurance.

Extent of Liability for Pollution Damage

Insurance industry representatives cite several reasons for the tight pollution insurance market. Most of them center on the unexpected extent of insurers' liability for pollution-associated damage as interpreted by courts and regulatory authorities. It has been standard industry practice to restrict pollution coverage under a particular comprehensive general liability policy to "sudden and accidental" occurrences. However, several courts have found insurance companies liable under the policies for contamination caused by leaking underground lines or landfills.[3] The insurance industry contends that this is an improper construction of contract language and it extends its liability well beyond what was intended by the policy. The most frequently cited example of such an interpretation is Jackson Township Municipal Utilities Authority v. Hartford Accident and Indemnity Company (N.J. Super. L., 451 A.2d 990 (1982)), in which the court held that the comprehensive general liability insurer had a duty to defend the township in a lawsuit brought because of the contamination of 97 wells caused by seepage from a municipal landfill.

The liability for cleaning up past hazardous waste sites under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (widely known as "Superfund") has been held to be retroactive, strict, and joint and several. Under retroactive liability, a responsible party is liable for the costs of cleaning up past pollution. This may include the present operator as well as a past operator. Strict liability allows the government to seek payment for cleanup costs from hazardous waste disposers without having to establish their negligence. Joint and several liability makes any one contributor to a hazardous waste site responsible for the entire cleanup if it is the only company that can be identified and has the ability to pay for cleanup. Insurers argue that such liability makes ratesetting nearly impossible, since underwriters must concern themselves not simply with the applicant for insurance

[3]Judicial interpretations of what constitutes a "sudden" occurrence have not been entirely consistent. For a more detailed discussion of the judicial trends in interpreting pollution insurance contracts, see General Accounting Office, Hazardous Waste: Issues Surrounding Insurance Availability, GAO/RCED-88-2 (Washington, D.C.: October 16, 1987), pp. 54-73.

but also with all other past and present contributors to a hazardous waste site.

These concerns arise more directly from the government's efforts to clean up abandoned hazardous waste sites under the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 than from the 1976 act's financial assurance provisions for operators of active waste management facilities. Indeed it could be argued that the regulatory system established under the 1976 act should have the effect of stabilizing insurers' risks since, if properly enforced, the act's regulations should keep any active hazardous waste facility from being improperly abandoned. It would also seem that the industry's adoption of claims-made forms and more careful underwriting criteria, particularly the use of extreme caution in underwriting common waste disposal facilities, could obviate most of these concerns. Nevertheless, the unfavorable interpretations of the insurer's liability are still cited by insurance industry representatives as having a chilling effect on underwriters' willingness to assume pollution liability.

Economic Conditions in the Insurance Industry

The growth of the insurance industry's concerns over its pollution liability coincided with a downturn in insurance profitability after years of cash flow underwriting in which the industry relied upon investment income from high premium volume to overcome underwriting losses. As we have discussed in other reports, losses exceeded premiums for property and casualty insurers each year from 1980 to 1985.[4] Until 1984, the industry's investment income had been able to offset these losses.

The erosion of industry profits saw the international reinsurance market limit its exposure to liability risks in general and particularly to pollution liability insurance which, as we discussed in chapter 2, expanded during the early part of the decade. In January 1984, a leading London reinsurance pool ceased accepting pollution liability reinsurance and other reinsurers followed suit over the next year. As a result, several primary insurers either withdrew from the market or limited their coverage.

[4]General Accounting Office, Insurance: Profitability of the Medical Malpractice and General Liability Lines, GAO/GGD-87-67 (Washington, D.C.: July 13, 1987), and Tax Policy: Financial Cycles in the Property/Casualty Industry, GAO/GGD-86-56FS (Washington, D.C.: April 9, 1986).

Data Availability

While industrywide information is available on the profitability of the property and casualty insurance industry in general and for certain specific lines of insurance, it is currently impossible to obtain industry data on its loss experience with pollution liability insurance. Insurance companies are required to file annual financial reports with the insurance commissions of the states in which they are licensed. These reports include earned premiums and incurred losses. However, pollution insurance has been written to a large extent by excess and surplus lines carriers—that is, by insurance companies who are allowed to operate in states in which they are not licensed because the lines of insurance they offer are not available from companies within the state. No requirement exists for these insurers to report to state regulators. The Insurance Services Office, the industry's statistical agency, has recently begun to collect information on pollution-related losses from its member companies but does not anticipate that this information will be usable for recommending rates until some indefinite future date, and perhaps never.

The Superfund Amendments and Reauthorization Act of 1986 directed GAO to review a sample of pollution claims against insurers that were closed in 1985. Accordingly, we collected information on 200 closed claims. We found the median payment to be $5,000. However, we concluded that this information was insufficient to project the ultimate cost of pollution claims to insurers, since we received reports from a companion survey of more than 11,900 pollution insurance claims still open at the end of 1985. As we have reported, it appears likely that the relatively few claims closed in 1985 were simpler and less expensive and were settled more quickly for that reason.[5]

While we were able to determine the basic approach and procedures used by insurance companies in setting rates for pollution liability insurance, we were not able to determine whether these rates are actuarially justified because of the lack of data from the insurance companies.

The insurance companies report that they have too little pollution liability insurance premium-and-loss data for them to form a statistical basis for pricing decisions, since data on this line of insurance has not been kept separately from other lines, such as general or comprehensive liability lines. Only one of the insurance executives we interviewed was able to provide a loss history specific to pollution liability insurance.

[5]Hazardous Waste: Issues Surrounding Insurance Availability, GAO/RCED-88-2 (Washington, D.C.: October 16, 1987).

Chapter 4

Matters for Congressional Consideration and Recommendation

In responding to the committee's questions concerning the availability and cost of pollution liability insurance for operators of hazardous waste facilities, we found that this insurance has become difficult to obtain and, when available at all, much more expensive. Small hazardous waste companies were the first affected by insurance scarcity, but nearly all companies now report adequate insurance coverage almost impossible to obtain at a reasonable price. We also found that adequate data do not exist to evaluate the reasonableness of the insurance industry's ratesetting for pollution liability insurance.

Liability insurance has been the method most frequently used by land disposal operators to fulfill EPA's financial responsibility requirements. Its reduced availability has substantially narrowed the range of options available to owners and operators to comply with the system of regulating hazardous waste management based on the Resource Conservation and Recovery Act of 1976. Although the scope of our research does not allow us to offer a quantitative estimate of its effect on hazardous waste disposal capacity, it seems reasonable to assume that capacity has diminished with diminishing insurance availability. These concerns prompt the following matters for consideration and recommendation.

Matters for Congressional Consideration

The third question posed by the committee was "How does the insurance industry determine risks and set rates for pollution liability insurance and how sound are its methods?" While we were able to address this question in general terms, we were unable to obtain adequate data to assess the reasonableness of the industry's ratesetting practices, or even to determine whether such data exist. In a recent report, we suggested that the Congress consider the advisability of requiring insurers or responsible parties, as appropriate, to report to EPA the amounts of indemnity payments made to cover pollution cleanups and related third-party bodily injury and property damage.[1] We resubmit this suggestion.

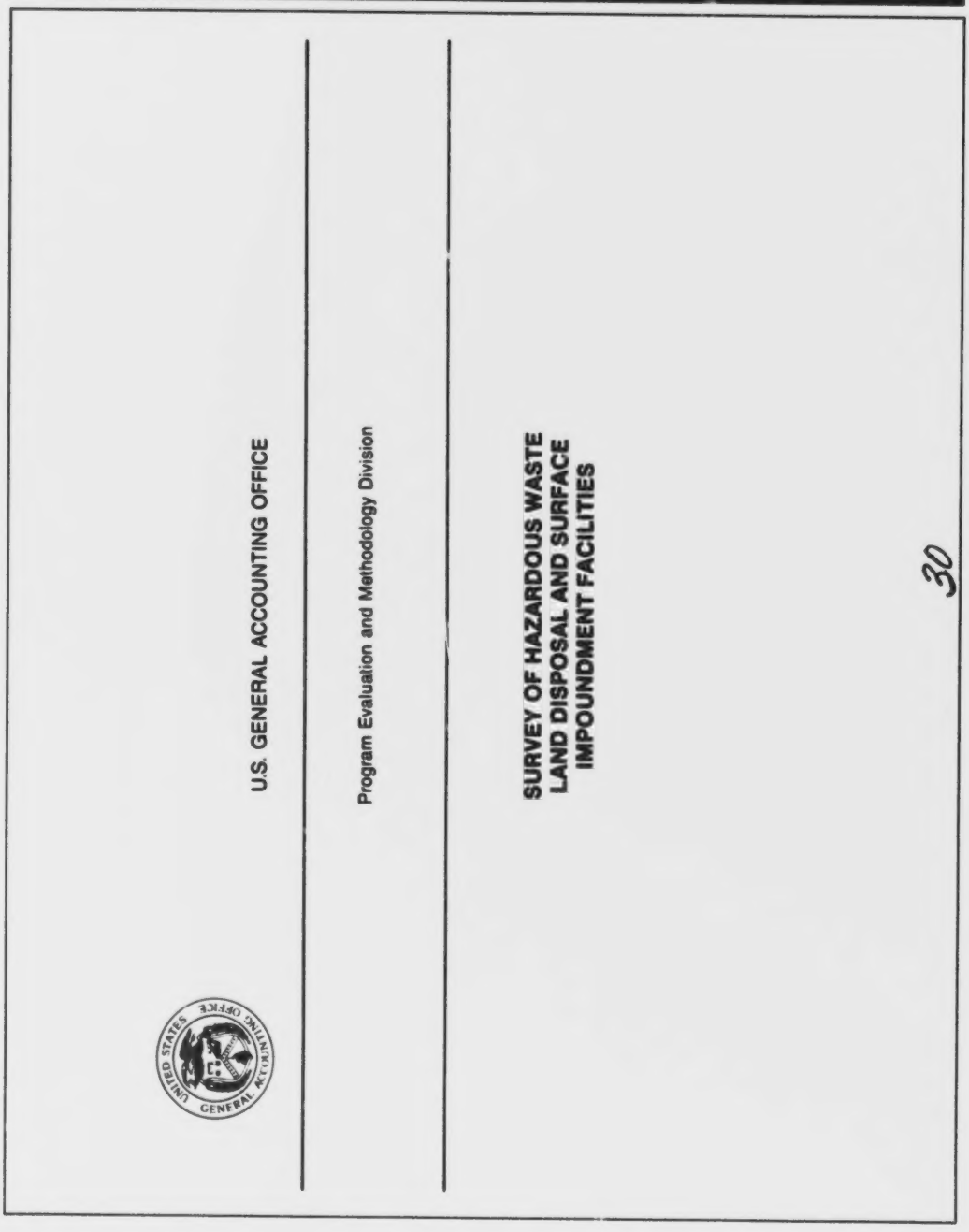
In addition, we suggest that the Congress consider authorizing EPA to collect the appropriate information to assess the reasonableness of the costs of insurance to meet EPA's liability coverage requirements. Such information would include premiums and additional costs to the insured operator, underwriting expenses for the insurer, and any limitations to the financial protection afforded under the insurance contract.

[1]General Accounting Office, Hazardous Waste: Issues Surrounding Insurance Availability, GAO/RCED-88-2 (Washington, D.C.: October 16, 1987), p. 84.

Recommendation

EPA has recently expanded the number of financial mechanisms that hazardous waste facility owners and operators may use to demonstrate financial responsibility. While we concur with the advisability of this additional flexibility, we recommend that EPA carefully monitor its effects on the number and size of operations using noninsurance alternatives to determine if it does have the intended effect of reducing the problem created by the constrained insurance market.

Survey of Hazardous Waste Land Disposal and Surface Impoundment Facilities



INSTRUCTIONS:

Purpose Of Survey

During the past few years the U.S. Congress has received numerous reports about difficulties encountered by hazardous waste handlers in obtaining the insurance coverage required under the Resource Conservation and Recovery Act (RCRA). For this reason, Congress has asked the United States General Accounting Office (GAO), its investigative arm, to review this problem. The purpose of this review is to assess the cost and availability of pollution liability insurance for the owners and operators of hazardous waste land disposal facilities (landfills, surface impoundments, land treatment facilities, etc.).

As you know, under RCRA such facilities are required to provide financial assurance of liability coverage for both sudden and non-sudden pollution. These requirements were phased in from 1982 through 1985. State regulations may vary, but this coverage generally takes the form of liability insurance, a financial test, or, in some cases, a corporate guarantee.

We are surveying all land disposal and surface impoundment facilities (whether active of inactive) currently on EPA's list in order to determine how the cost and availability of pollution liability insurance has affected their operations. Our study is aimed at providing the Congress with information needed to determine whether fundamental changes should be made to existing or proposed federal environmental legislation. To assess this issue, we need information from you—current and past owners and/or operators of hazardous waste facilities.

Anonymity

To encourage you to respond, this questionnaire is anonymous. There is nothing on it to identify you or your company. Your answers are anonymous and cannot become part of your federal or state environmental records, or any other file. Please mail back your completed questionnaire in the enclosed addressed envelope.

We have a system for ensuring your anonymity. In order for the system to work, we need your cooperation. Return the postcard **separately** after completing the questionnaire. We need the cards returned so we can remind those who do not answer. There is no way to link the postcard with your returned questionnaire. Remember that your identity and the identity of your facility are not important to the results of this study. However, your experiences and opinions are of vital importance to our work and are paramount to providing current and accurate information to the Congress. Your response is not a requirement. We are asking for your help!

How To Complete This Questionnaire

If you owned or operated a land disposal or surface impoundment facility between January 1, 1982 and December 31, 1986, please take the time to complete all of the questions which apply to your situation. Answer only for the facility identified in the cover letter by company name, address and EPA identification number. If you have more than one such facility, you will receive a questionnaire package for each facility. Please complete one questionnaire for each facility identified by an EPA number. Do not consolidate the responses of different facilities. However, if you have never owned or operated a hazardous waste land disposal or surface impoundment facility, please **complete the first question,** and return the questionnaire in the enclosed envelope.

If you are unable to answer questions in Part II regarding your facility's pollution liability insurance coverage, please contact your insurance agent(s) or broker(s) for assistance.

Throughout this questionnaire there are numbers printed within parentheses to assist in coding your responses for the computer. Please disregard these numbers.

Definitions

We are asking the owners and operators of the following types of facilities to respond to this questionnaire:

- landfill: a disposal facility in which hazardous waste is placed in or on the ground;
- surface impoundment: a containment area (retention pond, lagoon, pit, etc.) for the treatment, storage or disposal of liquid hazardous waste;
- land treatment (land farming or land spreading): applying hazardous waste to the soil for treatment;
- other land disposal facilities (injection wells, waste piles, salt domes, salt bed formations, underground wells or caves).

Please return the completed questionnaire in the enclosed envelope within 10 days of receipt. If you have any questions, please call Brenda James at (212) 264-0730 or Robert White at (202) 275-1860. In the event that the enclosed envelope is misplaced, our address is:

U.S. General Accounting Office
26 Federal Plaza
Room 41 .2
New Yor', NY 10278-0198
ATTN: Lrenda James

Thank you for your help.

PART I. GENERAL INFORMATION

☐☐☐☐01 (1-4)

The following questions ask for general information about this hazardous waste facility's operations.

1. Between January 1, 1982 and December 31, 1986, did your company ever own or operate a landfill, surface impoundment, land treatment or other type of land disposal facility to manage hazardous waste? (7)

   1. ☐ Yes **(CONTINUE TO QUESTION 2)**
   2. ☐ No **(STOP)**

   THIS SURVEY APPLIES ONLY TO LAND DISPOSAL OR SURFACE IMPOUNDMENT FACILITIES. IF YOUR COMPANY DID NOT OWN OR OPERATE THIS TYPE OF FACILITY BETWEEN JANUARY 1, 1982 AND DECEMBER 31, 1986; DO NOT CONTINUE. RETURN THIS QUESTIONNAIRE IN THE ENCLOSED ENVELOPE SO THAT WE MAY RECORD YOUR ANSWER TO THE FIRST QUESTION. PLEASE MAIL THE POST-CARD **SEPARATELY** SO THAT WE CAN MAKE SURE WE ARE INCLUDING YOUR RESPONSE IN OUR OVERALL POPULATION. THANK YOU VERY MUCH FOR YOUR HELP.

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2. Is this facility owned either by the Federal government or a State government? (8)

   1. ☐ No **(CONTINUE TO QUESTION 3)**
   2. ☐ Yes **(STOP)**

   IF THIS FACILITY IS OWNED BY THE FEDERAL GOVERNMENT OR A STATE GOVERNMENT, DO NOT CONTINUE. SUCH FACILITIES ARE EXEMPTED FROM THE FINANCIAL REQUIREMENTS OF THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976. RETURN THIS QUESTIONNAIRE IN THE ENCLOSED ENVELOPE SO THAT WE MAY RECORD YOUR ANSWERS TO THE PREVIOUS QUESTIONS. PLEASE MAIL THE POSTCARD **SEPARATELY** SO THAT WE CAN MAKE SURE WE ARE INCLUDING YOUR RESPONSES IN OUR OVERALL POPULATION. THANK YOU VERY MUCH FOR YOUR HELP.

---

3. During the time your company owned or operated this facility, did you ever purchase pollution liability insurance coverage? (9)

   1. ☐ Yes **(SKIP TO QUESTION 5)**
   2. ☐ No **(CONTINUE)**

4. If no to question 3, were you self-insured? This means were your assets sufficient to cover pollution liability risks without third party insurance. (10)

   1. ☐ Yes
   2. ☐ No

5. Has your company **stopped** owning or operating this facility? (11)

   1. ☐ Yes **(CONTINUE)**
   2. ☐ No **(SKIP TO QUESTION 8)**

6. What was the last date your company owned or operated this facility? *(Enter the month and year, as appropriate.)*

   ____/____ (*Last owned this facility*) (12-15)
   Month Year

   ____/____ (*Last operated this facility*) (16-19)
   Month Year

7. If your company no longer owns or operates this facility, how important were each of the following reasons for discontinuing its operation? *(Check one column for each reason.)*

REASONS	No Importance 1	Minor Importance 2	Major Importance 3	
1. No longer wished to be regulated under RCRA (Resource Conservation and Recovery Act).				(20)
2. Could not locate an insurance company that provided pollution liability insurance coverage.				(21)
3. Could not afford pollution liability insurance premium.				(22)
4. Could not obtain desired limits of pollution liability insurance coverage.				(23)
5. Deductible required by insurance company was too high.				(24)
6. Insurance company excluded desired pollution coverage.				(25)
7. Could not meet RCRA's requirement for liability coverage by using only company's self-worth.				(26)
8. Could not meet RCRA's requirement for liability coverage by combining insurance and self-worth.				(27)
9. Could not meet RCRA's groundwater monitoring requirements.				(28)
10. Could not meet RCRA's paperwork requirements.				(29)
11. Discontinued operation for business reasons other than RCRA (market changes, etc.) (*Please specify.*) _____ _____				(30) (31)

8. Do you or did you have a parent company? (32)

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 11)**

9. If yes to question 8, what were your parent company's total sales or revenues for all lines of business for 1986 or last full year of operation? *(Reasonable estimates or ballpark figures are acceptable. Answer for either sales or revenues.)*

$_____ *(Million in sales)* (33-36)

Or

$_____ *(Million in revenues)* (37-40)

10. Approximately what percent of total sales or revenues indicated in question 9 relates to this subsidiary's operations? *(Reasonable estimates are acceptable. Fill in the percent. Answer for either sales or revenues, whichever was quoted in question 9.)*

_____ *(Percent of sales)* (41-42)

Or

_____ *(Percent of revenues)* (43-44)

11. What were your company's total sales or revenues for all lines of business for 1986? If your company no longer operates this hazardous waste facility, provide total sales or revenues for the last full year you operated this facility. ***(Note:** If precise figures are sensitive or proprietary, please give us a general estimate or ballpark estimate. This level of detail will be good enough for our purposes.)*

$_____ *(Million in sales)* (45-48)

Or

$_____ *(Million in revenues)* (49-50)

12. Approximately what percent of total sales or revenues indicated in question 11 relates to this facility's hazardous waste operations? *(Reasonable estimates are acceptable. Fill in the per. Answer for either sales or revenues, whichever was quoted in question 11).*

_____ *(Percent of sales)* (53-54)

Or

_____ *(Percent of revenues)* (55-56)

13. Approximately what percent of the hazardous waste managed at this facility was generated by this facility? Answer for 1986 or the last full year you operated a land disposal or surface impoundment facility (as indicated in question 6.) *(Fill in the percent.)*

_____ *(Percent of total hazardous waste generated by this facility)* (57-58)

LANDFILL

14. Between 1982 and 1986, did you own or operate a landfill(s) at this facility (i.e., a disposal facility in which hazardous waste is placed on the ground)? (59)

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 16)**

15. If yes to question 14, indicate the quantity of hazardous waste disposed of by this facility's landfill(s). Write your answer in the space provided for 1986 or your last full year of operation. *(Reasonable estimates are acceptable. Fill in the amount.)*

1. _____ *(Amount of hazardous waste disposed of in 1986 or last full year of operation)* (60-69)

2. Be sure to check the appropriate unit of measure used to quantify this amount (e.g., pounds, short tons, etc.). *(Check one.)* (70)

1. ☐ Pounds
2. ☐ Short tons (2000 lbs.)
3. ☐ Kilograms
4. ☐ Metric tons (2200 lbs.)
5. ☐ Gallons
6. ☐ Liters
7. ☐ Other *(Specify)* _____ (71)

3. Circle the year for which you are reporting.

1986 1985 1984 1983 1982 (72-73)

Prior to 1982

SURFACE IMPOUNDMENTS

16. Between 1982 and 1986, did you own or operate at this facility a surface impoundment(s) (i.e., a containment area such as a retention pond, lagoon, pit, etc. for liquid hazardous waste)? (74)

☐ Yes **(CONTINUE)**

☐ No **(SKIP TO QUESTION 18)**

☐☐☐☐02 (1-6)

17. If yes to question 16, indicate the quantity of hazardous waste managed by this facility's surface impoundment(s). Write your answer in the space provided for 1986 or your last full year of operation. *(Reasonable estimates are acceptable. Fill in the amount.)*

1. _____ *(Amount of hazardous waste disposed of in 1986 or last full year of operation)* (7-16)

2. Be sure to check the appropriate unit of measure used to quantify this amount (e.g., gallons, liters, etc.). *(Check one.)* (17)

1. ☐ Pounds
2. ☐ Short tons (2000 lbs.)
3. ☐ Kilograms
4. ☐ Metric tons (2200 lbs.)
5. ☐ Gallons
6. ☐ Liters
7. ☐ Other *(Specify.)* _____ (18)

3. Circle the year for which you are reporting.

1986 1985 1984 1983 1982 (19-20)

Prior to 1982

LAND TREATMENT

18. Between 1982 and 1986, did you own or operate at this facility a land treatment operation(s), also called landfarming or land spreading, (i.e., applying hazardous waste to the soil for treatment)? (21)

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 20)**

19. If yes to question 18, indicate the quantity of hazardous waste managed by this facility's land treatment operations(s). Write your answer in the space provided for 1986 or your last full year of operation. (*Reasonable estimates are acceptable. Fill in the amount.*)

1. _____ (*Amount of hazardous waste disposed of in 1986 or last full year of operation*) (22-31)

2. Be sure to check the appropriate unit of measure used to quantify this amount (e.g., pounds, short tons, etc.). (*Check one.*) (32)

1. ☐ Pounds
2. ☐ Short tons (2000 lbs.)
3. ☐ Kilograms
4. ☐ Metric tons (2200 lbs.)
5. ☐ Gallons
6. ☐ Liters
7. ☐ Other (*Specify*) _____ (33)

3. Circle the year for which you are reporting.

1986 1985 1984 1983 1982 (34-35)
Prior to 1982.

OTHER LAND DISPOSAL

20. Consider other land disposal methods (e.g., waste piles, injection wells, etc.). Indicate the method(s) used and quantity (*specify unit of measure*) disposed of by this facility. Answer for 1986 or your last full year of operation.

Other Land Disposal Methods (*Specify*) (1)	Quantity Disposed of in 1986 or Last Full Year (2)	Unit of Measure (*Specify*) (3)	Not Applicable (4)	Year for Which You Are Reporting (5)
(36)	(37-46)	(47)	(48)	(49-50)
(51)	(52-61)	(62)	(63)	(64-65)
(66)	(67-73)	(74)	(75)	(76-77)

PART II: POLLUTION LIABILITY COVERAGE

The following questions ask for historical information on your pollution liability coverage.

[ ][ ][ ][ ][0][3] (1-6)

21. For each of the years listed below, indicate which financial assurance mechanisms were employed to provide the pollution liability coverage required by RCRA for third party bodily injury and property damage accidents resulting from the operation of this facility. (*Check all that apply.*)

For each of the years listed below in column 1, check yes or no for financial test, liability insurance or other coverage. Check not applicable if RCRA requirements do not apply. In column 1, if you passed a financial test (i.e., by demonstrating your self-worth,) check yes; otherwise check no. In column 3, if you purchased pollution liability insurance to cover all or part of the liabilities associated with the operation of this facility, check yes; otherwise check no. If you used other types of financial assurance mechanisms, in any given year, check yes in column 4 and specify the other type of mechanism used; if none, check no. If the RCRA requirements do not apply for any given year, check column 5.

(1)	(2) Financial Test		(3) Liability Insurance		(4) Other			(5)
Year	Yes	No	Yes	No	Yes	No		Not Applicable
1986							*If yes, specify other* _____	
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1985							*If yes, specify other* _____	
	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1984							*If yes, specify other* _____	
	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1983							*If yes, specify other* _____	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1982							*If yes, specify other* _____	
	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)

Note: *If you checked column 3 "yes" for liability insurance for any given year, continue to question 22; otherwise skip to question 41.*

22. For any year, did your pollution liability insurance policy combine sudden and non-sudden, gradual pollution coverage? (47)

1. ☐ Yes **(CONTINUE TO QUESTION 23)**
2. ☐ No **(SKIP TO QUESTION 25)**

23. If yes to question 22, was this combined coverage part of a general umbrella liability policy? (48)

1. ☐ Yes **(CONTINUE TO QUESTION 24)**
2. ☐ No **(CONTINUE TO QUESTION 24)**

24. If your insurance policy combined sudden and non-sudden, gradual coverage, either as a separate policy or as part of a general umbrella policy, please provide a historical breakout of this information. List the requested information on the insurer, per occurrence and annual aggregate coverage, effective date, deductibles and premiums by year.

If possible, your response should be based on a calendar year. If this is not possible, use the 12 month period for which the policy was in effect that most closely corresponds to the listed calendar year.

First, consider the dollar amount of liability coverage you have with each insurer. In columns 1, 2, and 3 list the insurer, the amount of coverage for each occurrence as well as for the annual aggregate (i.e., the total amount paid for all occurrences.) Next in columns 4, 5, and 6 provide the policy's effective date and cost information (i.e., amount of the annual deductibles and premiums). Also, see if you have additional coverage with this company for other types of insurance coverage (e.g., comprehensive general liability coverage, workmen's compensation, cargo insurance, property damage, etc.). If you do, list the total annual premiums for this other coverage (i.e., other than pollution insurance) in column 7.

Please indicate instances where you might have difficulty providing the requested information by using the following notation. If you did not have insurance for a certain year, write "none". If your policy is based on retrospective rates, write "retro" in column 5, annual deductible, and fill in the remaining columns. Write "N/A", if the information is not available or would be difficult to locate. Also write N/A, in the appropriate spaces, if the requested information is not available because it is part of a general umbrella insurance policy and cannot be broken out.

24. COMBINED SUDDEN/NON-SUDDEN POLLUTION COVERAGE

*(Use this form **only** if you cannot disaggregate sudden pollution coverage from non-sudden pollution coverage.)*

	Name of Insurer (1)	Coverage (in $ Millions) Per Occurrence (2)	Coverage (in $ Millions) Annual Aggregate (3)	Effective Date of Insurance (Month/Year) (4)	Annual Deductible (in $ Thousands) (5)	Annual Premium (in $ Thousands) (6)	Other Than Pollution Insurance Premiums: Total Annual Amount Paid to This Company (in $ Thousands) (7)	
1986		$	$		$	$	$	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	0 4 (14)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	0 5 (14)
1985	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	0 6 (14)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
1984	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(6771) $	(72-76) $	0 7 (14)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	0 8 (14)
1983	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	0 9 (14)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
1982	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 0 (14)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55)	(56-58)	(59-62)	(63-66)	(67-71)	(72-76)	1 1 (14)

25. For any year, did you have a separate policy for sudden and accidental pollution liability coverage or a policy which treated sudden and accidental liability coverage separate from non-sudden gradual pollution liability coverage? (7)

1. ☐ Yes **(CONTINUE TO QUESTION 26)**
2. ☐ No **(SKIP TO QUESTION 28)**

26. If yes to question 25, was this sudden and accidental pollution liability coverage part of a general umbrella liability policy? (8)

1. ☐ Yes **(CONTINUE TO QUESTION 27)**
2. ☐ No **(CONTINUE TO QUESTION 27)**

27. If your insurance policy underwrote or covered the sudden and accidental portion of your pollution liability coverage, either as a separate policy or as part of a general umbrella policy, that excluded non-sudden, gradual pollution liability, please provide a historical breakout of this information. List the requested information on the insurer, per occurrence and annual aggregate coverage, effective date, deductibles, and premiums by year.

If possible, your response should be based on a calendar year. If this is not possible, use the 12 month period for which the policy was in effect that most closely corresponds to the listed calendar year.

First, consider the dollar amount of liability coverage you have with each insurer. In columns 1, 2, and 3 list the insurer, the amount of coverage for each occurrence as well as for the annual aggregate (i.e., the total amount paid for all occurrences.) Next in columns 4, 5, and 6 provide the policy's effective date and cost information (i.e., amount of the annual deductibles and premiums). Also, see if you have additional coverage with this company for other types of insurance coverage (e.g., comprehensive general liability coverage, workmen's compensation, cargo insurance, property damage, etc.). If you do, list the total annual premiums for this other coverage (i.e., other than pollution insurance) in column 7.

Please indicate instances where you might have difficulty providing the requested information by using the following notation. If you did not have insurance for a certain year, write "none". If your policy is based on retrospective rates, write "retro" in column 5, annual deductible, and fill in the remaining columns. Write "N/A", if the information is not available or would be difficult to locate. Also write N/A, in the appropriate spaces, if the requested information is not available because it is part of a general umbrella insurance policy and cannot be broken out.

27. SUDDEN AND ACCIDENTAL POLLUTION COVERAGE

	Name of Insurer (1)	Coverage (in $ Millions) Per Occurrence (2)	Coverage (in $ Millions) Annual Aggregate (3)	Effective Date of Insurance (Month/Year) (4)	Annual Deductible (in $ Thousands) (5)	Annual Premium (in $ Thousands) (6)	Other Than Pollution Insurance Premiums: Total Annual Amount Paid to This Company (in $ Thousands) (7)	
1986		$	$		$	$	$	
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 2 (14)
1985	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 3 (14)
1984	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 4 (14)
1983	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 5 (14)
1982	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 6 (14)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 7 (14)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	1 8 (14)
	(10-12)	(13-15)	(16-18)	(19-22)	(23-26)	(27-31)	(32-36)	

28. For any year, did you have a separate policy for non-sudden, gradual pollution liability coverage or a policy which treated non-sudden, gradual pollution liability coverage separate from sudden and accidental pollution liability coverage? (37)

1. ☐ Yes **(CONTINUE TO QUESTION 29)**
2. ☐ No **(SKIP TO QUESTION 31)**

29. If yes to question 28, was this non-sudden, gradual pollution liability coverage part of a general umbrella liability policy? (38)

1. ☐ Yes **(CONTINUE TO QUESTION 30)**
2. ☐ No **(CONTINUE TO QUESTION 30)**

30. If your insurance policy underwrote or covered the non-sudden, gradual portion of your pollution liability coverage, either as a separate policy or as part of a general umbrella policy, that excluded sudden and accidental pollution liability, please provide a historical breakout of this information. List the requested information on the insurer, per occurrence and annual aggregate coverage, effective date, deductibles, and premiums by year.

If possible, your response should be based on a calendar year. If this is not possible, use the 12 month period for which the policy was in effect that most closely corresponds to the listed calendar year.

First, consider the dollar amount of liability coverage you have with each insurer. In columns 1, 2, and 3 list the insurer, the amount of coverage for each occurrence as well as for the annual aggregate (i.e., the total amount paid for all occurrences.) Next in columns 4, 5, and 6 provide the policy's effective date and cost information (i.e., amount of the annual deductibles and premiums). Also, see if you have additional coverage with this company for other types of insurance coverage (e.g., comprehensive general liability coverage, workmen's compensation, cargo insurance, property damage, etc.). If you do, list the total annual premiums for this other coverage (i.e., other than pollution insurance) in column 7.

Please indicate instances where you might have difficulty providing the requested information by using the following notation. If you did not have insurance for a certain year, write "none". If your policy is based on retrospective rates, write "retro" in column 5, annual deductible, and fill in the remaining columns. Write "N/A", if the information is not available or would be difficult to locate. Also write N/A, in the appropriate spaces, if the requested information is not available because it is part of a general umbrella insurance policy and cannot be broken out.

30. NON-SUDDEN, GRADUAL POLLUTION COVERAGE

	Name of Insurer (1)	Coverage (in $ Millions) Per Occurrence (2)	Coverage (in $ Millions) Annual Aggregate (3)	Effective Date of Insurance (Month/Year) (4)	Annual Deductible (in $ Thousands) (5)	Annual Premium (in $ Thousands) (6)	Other Than Pollution Insurance Premiums: Total Annual Amount Paid to This Company (in $ Thousands) (7)	
1986		$	$		$	$	$	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	19 (1-6)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	20 (1-6)
1985	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	21 (1-6)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
1984	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(6771) $	(72-76) $	22 (1-6)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	23 (1-6)
1983	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	24 (1-6)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
1982	(50-52)	(53-55) $	(56-58) $	(59-62)	(63-66) $	(67-71) $	(72-76) $	25 (1-6)
	(10-12)	(13-15) $	(16-18) $	(19-22)	(23-26) $	(27-31) $	(32-36) $	
	(50-52)	(53-55)	(56-58)	(59-62)	(63-66)	(67-71)	(72-76)	26 (1-6)

31. In any of the pollution liability insurance policies you listed above, have significant coverage exclusions been added? For example, an exclusion for ground water pollution. (7)

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 33)**

32. If yes to question 31, please indicate the policy year, name of insurance company, and type of exclusion(s). *(Write your answer in the space below.)*

Year	Insurance Company	Exclusion(s)
_____ (8 9)	_____ (10 12)	_____ (13 18)
_____ (19 20)	_____ (21 23)	_____ (24 29)
_____ (30 31)	_____ (32 34)	_____ (35 40)
_____ (41 42)	_____ (43 45)	_____ (46 51)
_____ (52 53)	_____ (54 56)	_____ (57 62)

33. Have any financial requirement(s)—for example—posting a letter of credit—been asked of you in order to obtain the coverage you listed above? (63)

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 35)**

☐☐☐☐27 (14)

34. If yes to question 33, please indicate the year, name of insurance company, and type of financial requirement(s) requested. *(Write your answer in the space below.)*

Year	Insurance Company	Exclusion(s)
_____ (7 8)	_____ (9 11)	_____ (12 17)
_____ (18 19)	_____ (20 22)	_____ (23 28)
_____ (29 30)	_____ (31 33)	_____ (34 39)
_____ (40 41)	_____ (42 44)	_____ (45 50)
_____ (51 52)	_____ (53 55)	_____ (56 61)

35. Have any of your operations been shut down or curtailed due to the cancellation or non-renewal of any of the pollution liability insurance policies listed above? (62)

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 37)**

36. If yes to question 35, please indicate the date (month and year) and the number of days your operations were shut down or curtailed.

_____/_____ *(Operation shut down or curtailed)* (63 66)
Month Year

_____ *(Number of days operations were shut down or curtailed)* (67 69)

POLLUTION CLAIMS HISTORY

37. For the period 1982 through 1986 has your company filed any claims with your insurer(s) under your pollution liability insurance policy? (70)

1. ☐ Yes (CONTINUE)
2. ☐ No (SKIP TO QUESTION 39)

☐☐☐☐2 8 (14)

38. If yes to question 37, please indicate the date (month and year) on which you filed the claim in colum 1, the claim amount in column 2, the name of your insurer(s) in column 3, the amount actually paid by the insurance company for each claim in column 4, and the type of claim in columns 5 and 6.

Date (Month/Year) (1)	Claim Amount (in Thousands) (2)	Insurance Company (3)	Amount Paid (in Thousands) (4)	Type of Claim	
				Sudden and Accidental (*Check one box for each claim filed.*) (5)	Non-Sudden, Gradual (6)
	$		$	☐	☐
(7-10)	(11-16)	(17-22)	(23-28)	(29)	(30)
	$		$	☐	☐
(31-34)	(35-40)	(41-46)	(47-52)	(53)	(54)
	$		$	☐	☐
(55-58)	(59-64)	(65-70)	(71-76)	(77)	(78)
	$		$	☐	☐
(7-10)	(11-16)	(17-22)	(23-28)	(29)	(30)
	$		$	☐	☐
(31-34)	(35-40)	(41-46)	(47-52)	(53)	(54)

☐☐☐☐2 9 (14)

39. Under RCRA, the passage of a financial test may be used to cover pollution liabilities in lieu of purchasing insurance. This means you may be required to demonstrate that your company can cover potential pollution liabilities without insurance. Between 1982 and 1986, were you asked to demonstrate your company's ability to cover pollution liabilities by passing a financial test? (15)

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 41)**

☐☐☐☐3 0 (16)

40. If yes to question 39, for each of the years listed below, please list the dollar amount of liability you indicated your company could cover.

Year	Dollar Amount of Liability (in $ Millions)		
	Sudden and Accidental Occurences	Non-Sudden, Gradual Occurences	Total Liability For All Occurrences
(1)	(2)	(3)	(4)
1986	$ (7-9)	$ (10-12)	$ (13-16)
1985	$ (17-19)	$ (20-22)	$ (23-26)
1984	$ (27-29)	$ (30-32)	$ (33-36)
1983	$ (37-39)	$ (40-42)	$ (43-46)

***Note:** If you cannot separate your liability for sudden and non-sudden occurrences, enter the amount of the total liability in column 4.*

PART III. AVAILABILITY OF POLLUTION INSURANCE

41. Think about all of the times you have attempted to obtain pollution liability coverage for this facility, including renewals with the same insurance company. Has your company ever applied for pollution liability insurance coverage and been denied or rejected?

1. ☐ Yes **(CONTINUE)**
2. ☐ No **(SKIP TO QUESTION 44)**

42. If yes to question 41, indicate the number of times your company was denied pollution liability insurance during 1986 or the last full year your company operated a land disposal or surface impoundment facility. *(Fill in the number.)*

_____ *(Number of times denied)* (48-49)

43. Why do you think you had trouble getting this insurance? *(Check all that apply.)*

☐ Pollution liability insurance was not available. (50)

☐ Insurance company told you or your agent that it was getting out of the pollution liability insurance business. (51)

☐ Your company failed to meet the insurance company's underwriting criteria. (52)

☐ Other reasons *(Please specify)* _____

_____

_____ (53-55)

☐ No basis to judge. (56)

44. The last time you tried to obtain pollution liability insurance for this facility, how difficult, if at all, was it for you to obtain a fair price, adequate coverage, and acceptable pollution exclusions? *(Check one box for each row.)*

	1 Little or no difficulty	2 Some difficulty	3 Moderate level of difficulty	4 Great amount of difficulty	5 Very great amount of difficulty	6 Insurance was Not Available	
1. To obtain a fair price							(57)
2. To obtain adequate coverage amounts							(58)
3. To obtain an acceptable range of pollution liability coverage							(59)

45. If you could have purchased any amount of pollution liability insurance in 1986 or the last full year you owned or operated this facility, what limits of coverage would you have purchased for this facility? *(Fill in the amounts.)*

$ _____ *(Million per occurrence)* (60-62)

$ _____ *(Million in annual aggregate)* (63-65)

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-17-

46. If you have any additional comments or ideas about the questions asked in this survey, please write them in the space below. Also, if you have other ideas or concerns about pollution liability insurance or about questions we should have asked but did not, please take the time now to tell us about them. (66-71)

Finally, and most important, if you have illustrative examples or valuable information which you would like to discuss directly, please list your name, address and phone number at the conclusion of your comments so we can contact you, if necessary. If you choose to provide your name, address, and phone number, please detach this page and mail it to us in the enclosed letter size envelope. This separate mailing will ensure your anonymity for the rest of the questionnaire.

Thank you for your cooperation.

Reasons Companies Cease Operations

Reason[a]	Small company Score	Small company Rank	Large company Score	Large company Rank
Cannot find insurance	1.4	1	0.5	6
Regulation under 1976 act	1.4	2	1.7	1
Insurance exclusions	1.3	3	0.6	4
Financial test not applicable	1.2	4	0.4	9
Desired coverage not applicable	1.2	5	0.5	8
Premium unaffordable	1.1	6	0.5	7
Other business reasons	0.8	7	0.6	3
Groundwater monitoring	0.6	8	0.7	2
Deductible too high	0.6	9	0.4	10
Paperwork burdensome	0.6	10	0.5	5

[a]Mean scores on a 0-2 scale on which 0 = not important and 2 = very important.

Difficulty of Obtaining Pollution Liability Insurance

Company size[a]	Status	Price	Coverage		Summary
			Amount	Breadth	
Large	Operational	4.18	4.10	4.16	4.15
	Nonoperational	3.50	3.17	3.33	3.36
Small	Operational	4.32	4.01	4.19	4.21
	Nonoperational	4.28	3.98	4.08	4.12

[a]Based on a 0-5 scale on which 0 = little or no difficulty and 5 = insurance not available.

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